

## **Energy & Technology Committee Public Hearing – February 24, 2022**

Testimony Submitted by Cary Lynch, Climate and Policy Manager, The Nature Conservancy

### **S.B. 91 AN ACT REQUIRING THE DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION TO REPORT ON BATTERY STORAGE TECHNOLOGY**

Thank you for the opportunity to present testimony on behalf of The Nature Conservancy in **support of S.B. No. 91**. The Nature Conservancy is committed to promoting clean energy policy and supports legislation that increases the deployment of battery storage technology.

This bill mandates that DEEP produce a report on battery storage technology that describes the life-cycle impacts as well as disposal and/or recycling processes. However, as it is currently written, it does not give any specifics on what type of battery storage technology is to be included in the report. It also lacks information on purpose of this committee bill, leaving rationale to be interpreted at will.

We first recommend that this bill distinguish which battery technology is intended to be included in the report, as there are many types of battery storage, including lithium ion, lead acid, lithium iron, hydrogen, etc.<sup>1</sup> Dependent on technology, the life-cycle impacts can vary substantially.

While we do not know the intent in introducing this bill, multiple studies do show that based on life cycle environmental impact assessment, utility-scale lithium-ion battery storage has significantly lower impacts than natural gas power in four out of six environmental impact categories assessed (climate change, fine particulate matter, photochemical ozone formation, and terrestrial acidification)<sup>2</sup>. Utilization of battery storage compared to a diesel generator, has clear and substantial health and environmental benefits. A lifecycle analysis of battery storage also demonstrates a large emission reduction compared to other fossil generation like coal and petroleum-based fuels<sup>3</sup>.

The Nature Conservancy strongly supports research and planning for recycling of a battery systems component parts, once a system reaches its functional lifespan. Prices for battery packs used in electric vehicles and energy storage systems have fallen 87% from 2010-2019<sup>4</sup>, faster than expected. As the prices have fallen, battery usage has risen as lower costs support more capacity at each storage facility. The larger the battery storage facility, the longer the lifespan of the system. However, battery storage systems, regardless of size have an estimated lifespan.

While we support recycling of battery systems, methods and procedures for recycling are still being developed. The 2021 Federal Infrastructure and Investment in Jobs Act has authorized over \$6 billion in funding for battery material management and recycling<sup>5</sup>. We would recommend that a DEEP report on recycling reflect the on-going evolution of battery storage system recycling.

Thank you for this opportunity to provide support and recommendations for this bill.

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<sup>1</sup> <https://www.eesi.org/papers/view/energy-storage-2019>

<sup>2</sup> <https://ieeexplore.ieee.org/document/8980665>

<sup>3</sup> <https://www.mdpi.com/2076-3417/11/6/2770/htm>

<sup>4</sup> <https://www.utilitydive.com/news/battery-prices-fall-nearly-50-in-3-years-spurring-more-electrification-b/568363/>

<sup>5</sup> <https://bgrdc.com/infrastructure-investment-and-jobs-act-power-and-energy/>